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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/598,870	06/21/2000	Charles S. Farlow	100.015US01	7541
34206	7590	05/12/2005	EXAMINER	
FOGG AND ASSOCIATES, LLC P.O. BOX 581339 MINNEAPOLIS, MN 55458-1339			VARTANIAN, HARRY	
			ART UNIT	PAPER NUMBER
			2634	

DATE MAILED: 05/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/598,870

Applicant(s)

FARLOW, CHARLES S.

Examiner

Harry Vartanian

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 18 June 2004.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-32, 35-41 and 43-51 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☒ Claim(s) 9-32, 35-41 and 45-48 is/are allowed.  
6) ☒ Claim(s) 1-6, 43, 44, 49 and 50-51 is/are rejected.  
7) ☒ Claim(s) 7 and 8 is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 6/18/2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4) ☒ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

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## DETAILED ACTION

### *Response to Arguments*

Applicant's arguments filed on 6/18/2004, with respect to the rejection(s) of claim(s) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of *newly found prior art reference(s)*.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1-6, 43-44, and 49-50 are rejected under 35 U.S.C. 102(b) as being anticipated by Ueda(US Patent# 5,787,118). Regarding Claims 1, 6, 43-44 and 49 Ueda discloses an adaptive diversity equalizer where a received signal is processed through a linear and adaptive equalizer to generate an intermediate signal(fig 1, items 40-42). More specifically, Ueda discloses that:

"means for selecting one of the equalized outputs produced from the plurality of decision feedback adaptive equalizers or one of the equalized outputs produced from the plurality of linear adaptive equalizers based on the result of comparison by the comparator, setting the selected one as a final equalized output and deactivating either the non-selected decision feedback adaptive equalizers or the non-selected linear adaptive equalizers, whereby performance of the plurality of decision feedback adaptive equalizers and those of the plurality of linear adaptive equalizers are respectively compared to thereby set the output of one of the adaptive equalizers, which is best in equalization characteristic, as a final equalized output from the result of comparison, and the remaining adaptive equalizers are deactivated." (Column 12, lines 35-49)

The use of a selector circuit is shown in figure 1, item 48.

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Regarding Claims 2-3, Ueda discloses in figure 1 that one of the equalizers is a decision feedback adaptive filter.

Regarding Claim 4, Ueda states:

"In order to achieve the above objects, an adaptive equalizer of the first aspect of the invention comprises: a decision feedback adaptive equalizer comprised of two linear transversal filters, that is, a feedforward filter and a feedback filter, a decision part and a tap-coefficient-update part that updates the tap-coefficient of the two linear transversal filters in accordance with tap-coefficient update algorithms;" (Column 9, Lines 9-15)

Regarding Claim 5, Ueda states:

"Next, the square error integrating circuit and the averaging circuit determine MSE1 representing the mean of the square errors. Further, the multiplier multiplies the MSE1 by the FFR and the suitable constant a to thereby fix the following MSE11 and outputs it to the comparator 61." (Column 25, lines 41-45)

Regarding Claim 50, Ueda shows in fig 11 that the receiver station, which is evident to be a base station, is used in a wireless medium.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

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4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
2. Claim 51 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ueda(US Patent# 5,787,118). Ueda meets all the limitations of the claim except disclosing that his receiver is a head-end of a hybrid fiber-coax network.

However, it was well-known in the art at the time the invention was made that base stations could be connected to a fiber-coax networks.

***Allowable Subject Matter***

3. Claims 9-32, 35-41, 45-48 are allowed.
4. The following is an examiner's statement of reasons for allowance: Claims 9, 18, 45 were allowed, because the prior failed to properly suggest using a bank of decoders in between the equalization stage and the selector circuit. In Ueda, the decoding is done after the equalized signal is selected.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

5. Claims 7-8 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Harry Vartanian whose telephone number is 571.272.3048. The examiner can normally be reached on 10:00-6:30 Mondays to Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on 571.272.3056. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Harry Vartanian  
Examiner  
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HV



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